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George Glauberman and **Justin Lynd*** (justin.lynd@mso.umt.edu). *Centric linking systems and control of fixed points.*

Andrew Chermak has recently shown that each saturated fusion system has a unique associated centric linking system, thereby giving a new proof of the Martino-Priddy conjecture concerning the p -completed classifying spaces of finite groups. In the case of a fusion system of a finite group, the centric linking system provides a "link" to, and a combinatorial model of, the p -completed classifying space. In the case of an arbitrary saturated fusion system, perhaps arising from no ambient finite group, a centric linking system for it allows one to associate with the fusion system a classifying space. Concurrently with Chermak's result, Oliver gave a version of Chermak's proof that involved showing that a certain representation of the p -orbit category has vanishing cohomology in degrees at least 2 (and is acyclic if p is odd). Both Chermak's and Oliver's proofs appeal to the classification of finite simple groups to handle a residual case in an inductive context. On the other hand, a 1971 result of Glauberman sheds additional light on the nature of the vanishing of low-dimensional cohomology of this representation and allows for a classification-free proof of Chermak's Theorem. (Received September 22, 2015)